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Unequal Access to Rigorous High School Curricula: An Exploration of the Opportunity to Benefit From the International Baccalaureate Diploma Programme (IBDP)

Laura W. Perna[1], Henry May[2], April Yee[1], Tafaya Ransom[1], Awilda Rodriguez[1] and Rachél Fester[1]

Abstract

This study explores whether students from low-income families and racial/ethnic minority groups have the opportunity to benefit in what is arguably the most rigorous type of credit-based transition program: the International Baccalaureate Diploma Programme (IBDP). The analyses first describe national longitudinal trends in characteristics of schools offering the IBDP and the characteristics of students within schools who enroll. The analyses draw on data from the International Baccalaureate database, which include individual-level data on more than 400,000 IBDP students from 1995 through 2009, as well as data from the Common Core of Data from the National Center for Education Statistics. The article also draws on data collected from a survey of IBDPs in Florida to document variations in the opportunity to benefit from available IBDPs.

[1]University of Pennsylvania, Philadelphia, PA, USA
[2]University of Delaware, USA

Corresponding Author:
Laura W. Perna, Professor, Graduate School of Education, University of Pennsylvania, 3700 Walnut Street, Philadelphia, PA 19104, USA.
Email: lperna@gse.upenn.edu

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Inadequate academic preparation is one of the primary forces limiting college access and success for Black, Hispanic, and low-income students (Perna, 2005). Low-levels of academic preparation for college especially among these groups of students are attributable to both the absence of academically rigorous course offerings in the high school attended and underparticipation in the rigorous courses that are available, where rigorous courses are defined as those that promote readiness for college-level academic demands and expectations (Adelman, 1999, 2006; Perna, 2005).

One approach to improving students' academic readiness for college is for high schools and school districts to offer high school students exposure to courses that are often (although not always) granted credit by colleges and universities. Labeled "secondary–postsecondary learning options," "accelerated learning options," and "credit-based transition programs," these offerings include the International Baccalaureate Diploma Programme (IBDP), Advanced Placement (AP), and dual enrollment (Lerner & Brand, 2006). Credit-based transition programs appear to be widely available. One survey showed that 87% of public high schools nationwide offered IBDP, AP, or dual credit courses in 2002 to 2003, with 36% offering IBDP, AP, or dual credit courses, 50% offering two of these three types of courses, and 2% offering all three (Waits, Setzer, & Lewis, 2005).

Although seemingly available, however, the extent to which such offerings as IBDP, AP, and dual enrollment actually promote academic readiness for college among Black, Hispanic, and low-income students depends on: (a) the availability of these curricular offerings in the high schools that these students attend; (b) the participation of these students in available offerings; and (c) the extent to which the available offerings are structured to promote the readiness of students to meet colleges' academic expectations. This study explores these issues by focusing on IBDP, arguably the most academically demanding type of credit-based transition program. We first draw on national data to describe trends in the characteristics of schools offering the IBDP and the characteristics of students within schools who participate. We then draw on data collected from a survey of IBDP coordinators in Florida to examine whether key features of available IBDPs vary across schools based on the characteristics of students attending the school. We conclude by identifying implications of the results.

Guiding Research

IB's mission is somewhat broader than improving academic preparation, as its stated goal is: "to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect" (International Baccalaureate Americas, 2013a). Nonetheless, the IBDP defines itself as "an academically challenging and balanced programme of education with final examinations that prepares students, aged 16 to 19, for success at university and life beyond" (IB Americas, 2013b). The IBDP is a 2-year curriculum offered during the junior and senior years of high school. In contrast to other credit-based transition programs (e.g., AP and dual enrollment) in which students choose courses "a la carte," students in the IBDP select one subject from each of five groups (as well as a sixth subject from a sixth group or one of the five other groups) and participate in three compulsory components designed to develop research and critical thinking skills and foster personal and interpersonal development: Extended Essay (EE), Theory of Knowledge (TOK), and Creativity, Action, and Service (CAS). IBDP students who do not fulfill all of the requirements for a diploma may receive a certificate instead. Approximately 80% of students enrolled in the IBDP receive the diploma (IB Americas, 2011a).

With its comprehensive, highly structured, academically demanding curriculum, the IBDP offers a promising approach to improving high school students' academic readiness for college (IB Americas, n.d.; Kirst & Venezia, 2004; Venezia, Kirst & Antonio, 2003; Conley & Ward, 2009). Consistent with these expectations, available research suggests that a high school curriculum in the form of the IBDP may promote students' college-related outcomes (Bailey & Karp, 2003; Duevel, 1999; Foust et al., 2009; Hertberg-Davis & Callahan, 2008; International Baccalaureate Global Policy and Research, 2010; Kolb, 1997; Moydell et al., 1991).

First authorized in the United States in 1971, IBDP is available at a growing number of public and private schools nationwide. In 2011, 1,302 IB schools were authorized in the United States: 286 offered the Primary Years Programme, 447 offered the Middle Years Programme, and 753 offered the Diploma Programme (IB Americas, 2011a). Over the past decade, both the number of U.S. schools offering IBDP and the number of students in the United.States participating in IBDP have increased dramatically, suggesting a growing recognition of the program's merits (IB Americas, n.d.). Between 2000 and 2011, the number of schools offering the IBDP rose by 209%, from 360 to 753 (personal communication, J. Sanders, August 10, 2011).

Although growing, the percentage of all U.S. high schools that have opted to offer this curriculum is still quite small. IBDP courses cannot be offered

unless the school implements the entire program (Byrd, 2007). But offering the IBDP requires a substantial commitment, including payment of an initial application fee, annual program fees, and examination fees. The availability of funds and other necessary resources undoubtedly varies across schools and districts, and may explain why IB has historically been more frequently offered in private rather than public schools (IB Americas, 2012).

Even if IBDP is available at the school, not all students participate. IBDP tends to enroll high-achieving students from families who are aware of the program and its potential benefits to college readiness and admission (Bailey & Karp, 2003), as well as students from higher income families and better educated parents (Chen, Wu, & Tasoff, 2010). The International Baccalaureate Organization acknowledges the challenges associated with increasing the participation in IBDP of students from more diverse backgrounds, stating:

> Despite our best intentions, our growth is not distributed evenly . . . indeed; there is good evidence to show that our growth is mainly benefitting the economically advantaged. Even in high-income countries, we know that the majority of students come from better socio-economic backgrounds. (International Baccalaureate Organisation, 2006, p. 3).

George Walker (2011), a former director general of IB, admitted that, "solving the problem of access to a wider, less privileged socioeconomic group of students remains one of the IB's greatest challenges" (p.15). Along the same lines, scholars outside of the United States have critiqued IB for primarily serving elite student populations, arguing that schools, parents, and children use IB as a means for gaining and reproducing advantage in unequal educational settings (Bunnell, 2008; Doherty, 2012; Doherty, Mu, & Shield, 2009; Tarc, 2009).

Participation in an IBDP depends on whether students choose to participate and whether they are encouraged to participate by school personnel. In an examination of AP and IBDP students' perceptions of the advantages and disadvantages of these programs, Hertberg-Davis and Callahan (2008) concluded that students' interests, learning styles, and goals shape the "fit" of students for these programs. At some schools, students may be formally and informally guided into or away from participation. In a qualitative study of the implementation of IBDP in Title I high schools (i.e., schools that enroll a high proportion of low-income students), Siskin and colleagues (2010) found that guidance counselors play a crucial role in bringing students into the IBDP and deciding which students participate. Suggesting that curricular tracking also influences participation, another study found that the probability of completing an IB Diploma increased substantially after curricular

tracking was eliminated from the high schools in one school district (Burris, Wiley, Welner, & Murphy, 2008).

The benefits of a curricular program like IBDP to students' academic readiness for college depend on how the program is actually manifest within a school. Some research suggests that what constitutes an IBDP and the extent to which IBDP may promote academic readiness for college vary across high schools. Byrd (2007) noted that the IB Organization has several mechanisms that are designed to guarantee consistent program quality, including training for IBDP administrators prior to the initiation of IBDP at a school, internal and external assessments, supervision of instructors, and detailed teacher guides for each course. Nonetheless, in the midpoint evaluation of *The IB Access Project*, Corcoran and Gerry (2011) found variation in teachers' willingness to implement new curricular and assessment tools to improve students' preparation for IBDP. In their case study analysis of two diverse and successful IBDPs, Bland and Woolworth (2011) found that varying admissions processes led to different levels of student preparation and these variations in preparation required different mechanisms to support student success.

Suggesting a cause of variations across schools in the academic preparation provided by IBDP, the National Research Council noted that the IB Organization failed to articulate the principles of learning on which the program is based (Gollub, Bertenthal, Labov, & Curtis, 2002). The National Research Council also noted that:

> systematic information is lacking about the AP and IB programs as they are actually implemented in U.S. high schools, including the instructional strategies used in individual classrooms, the structure of the syllabi in different schools, the quantity and quality of the facilities available, the preparation of teachers who teach the courses, and the ways in which students are prepared prior to advanced study. (Gollub et al., 2002, p. 155)

The report concluded by encouraging research examining the implementation and effectiveness of IBDP (Gollub et al., 2002).

Research Design

Before scholars can examine the benefits of the IBDP for promoting academic readiness for college among Black, Hispanic, and low-income students, it is first necessary to understand: the extent to which the high schools attended by Black, Hispanic, and low-income students offer IBDPs, whether these students actually enroll in IBDPs that are available, and whether the

IBDP has characteristics that promote college readiness. This study addresses this knowledge need by exploring the following four research questions:

1. To what extent is IBDP available at schools that serve Black, Hispanic, and low-income students?
2. To what extent do Black, Hispanic, and low-income students participate in IBDP?
3. Is IBDP available at public high schools in the state of Florida that serve high numbers of Black, Hispanic, and low-income students?
4. Do the academic offerings and supports provided by IBDP vary across public high schools in the state of Florida based on the demographic characteristics of students attending the school?

To address the first and second research questions, we draw on data from two sources. The Common Core of Data (CCD) from the National Center for Education Statistics includes annual school-level characteristics and demographics for all public schools nationwide. The International Baccalaureate database includes individual-level data on more than 400,000 IBDP students from 1995 through 2009. Data on student race/ethnicity and free/reduced lunch eligibility are available from 2006 onward. We link the two databases for each year using school names and addresses.

We assess the availability of IBDP in schools attended by Black and Hispanic students by considering the percentages of Black and Hispanic students enrolled at a school. Because of limitations in the available measures, to assess the availability of IBDP at schools attended by low-income students we consider both the percentage of students at a school who are eligible for the federal free and reduced lunch program and a school's Title I eligibility. Title I eligibility is considered since, by definition, Title I schools serve high numbers and/or percentages of low-income students (U.S. Department of Education, 2012).

Analyses for the first two research questions do not require inferential statistics, as the data describe the population and not a sample. Even if p-values were calculated, the tremendous sample sizes would yield significance for even tiny shifts in characteristics. To enhance interpretability, results are presented graphically showing longitudinal trends in the form of stacked bar charts and box plots.

To address the third and fourth questions, we designed a survey to explore in more depth the characteristics of IBDP in Florida. As of 2010, 68 public high schools in Florida offered the IB Diploma Programme, with more than 7,000 students enrolled; this represented the second largest IBDP enrollment among the 50 states (IB Americas, 2011a). In 2009, Florida also had the

highest number of IB Diploma candidates and the second highest IB Diploma pass rate in the United States (IB Americas, 2011a). The share of public high schools offering IB courses in core subject areas in 2009 was also considerably higher in Florida (7.4%) than the national average (2.9%, Lee & Rawls, 2010).

Florida has established several public policies that likely contribute to the prevalence of IBDP and make it an ideal, although unique, state for investigating our research questions). For instance, Florida statute provides that school districts receive additional funding based on the numbers of students passing IBDP exams or earning an IB diploma (Florida Department of Education, 2011b). Florida teachers also receive financial incentives based on students' scores on IBDP exams, and the incentives are higher for teachers at low-performing schools. Students in Florida public schools are exempt from paying IB exam fees. Florida law also promotes the granting of college credit for student participation in IBDP. Nearly all (81%) students enrolled in IBDP earned postsecondary credit during 2009 to 2010 (Florida Department of Education, 2011b). At least 16 Florida universities grant 2nd-year status to IB diploma holders (Florida Department of Education, 2011b; IB Americas, 2011b). Florida law also designates both the IB Diploma and the IBDP curriculum as methods for qualifying for the state's lottery-funded, merit-based scholarship program (Florida Department of Education, 2011b).

The survey was designed to elicit information about key features of IBDP in the state of Florida and the degree of variation in these features across schools with different demographic characteristics. The survey included both fixed-response and open-ended questions and focused on issues related to program admissions, administration, and instruction. After receiving feedback in December 2009 and October 2010 from a focus group of IBDP coordinators ($n = 7$) from outside of Florida, we administered the survey to all IBDP coordinators in Florida ($n = 69$) in November 2010 via an online platform. In an effort to boost response rates, IB Americas sent an email encouraging coordinators to participate. Coordinators received US$25 gift cards to Amazon.com for their participation. Throughout the winter, we emailed monthly reminders to partial and nonrespondents. We also called partial and nonrespondents in February to confirm receipt of the survey, inquire about the likelihood of completing the survey, and offer to conduct a phone interview instead. The survey was closed in March 2011. Two questionnaires were only partially completed and thus discarded. The overall response rate was 75% ($n = 52$). The public school response rate was 75% ($n = 45$) and the private school response rate was 78% ($n = 7$). Because most IBDPs nationwide and in Florida are now offered at public rather than

private high schools (IB Americas, 2011a), we limited the analyses to the 45 respondents from public high schools.

We used descriptive analyses to examine the closed-ended responses. Cross-tabulations with χ^2 tests and independent samples *t*-tests assess differences in the availability of IBDP (research question 3) and differences in key characteristic of IBDP (research question 4) in Florida public high schools in terms of two demographic characteristics of the schools' student body: race/ethnicity and family income. As in the analyses for the first two research questions, the analyses use both the percentage of students at a school that is eligible for the federal free and reduced price lunch program and a school's Title I eligibility as proxies for the family income of students enrolled at the school. Because the analyses are based on a relatively small number of programs ($n = 45$), this exploratory analysis compares the characteristics of programs at schools based on simple dichotomies (constructed based on the median of the distributions): schools where at least 50% of students are eligible for free or reduced price lunch (yes or no) and schools where at least 50% of students are non-White (yes or no). Further reflecting the small number of cases, we used a liberal threshold of statistical significance ($p < .10$). Three members of the research team worked independently and then together to develop codes to analyze responses to the open-ended questions. Analyses of the open-ended questions are included as relevant to shed additional light on the research questions.

Findings

To What Extent Do Schools That Serve Black, Hispanic, and Low-Income Students Offer IBDP?

Between 1995 and 2001, the composition of schools offering the IBDP shifted in terms of some, but not all, of the school demographic characteristics examined. Although the total number of high schools in the United States offering the IBDP increased dramatically (i.e., from 165 in 1995-682 in 2009, personal communication, J. Sanders, November 15, 2011), Figure 1 shows little change over this period in the distribution of Black students attending schools with IBDP. Throughout this period, the mean percentage of Black students at schools offering IBDP fluctuated only between 28% and 32%. In contrast, Figure 2 shows a clear lengthening of the distribution of Hispanic students attending schools with an IBDP. This shift in the distribution is evident in the increased height of the boxes over time, the lengthening of the top whisker, and the increased number of outliers in the upper part of those boxes for recent years. From 1995 to 2008, the average percentage of

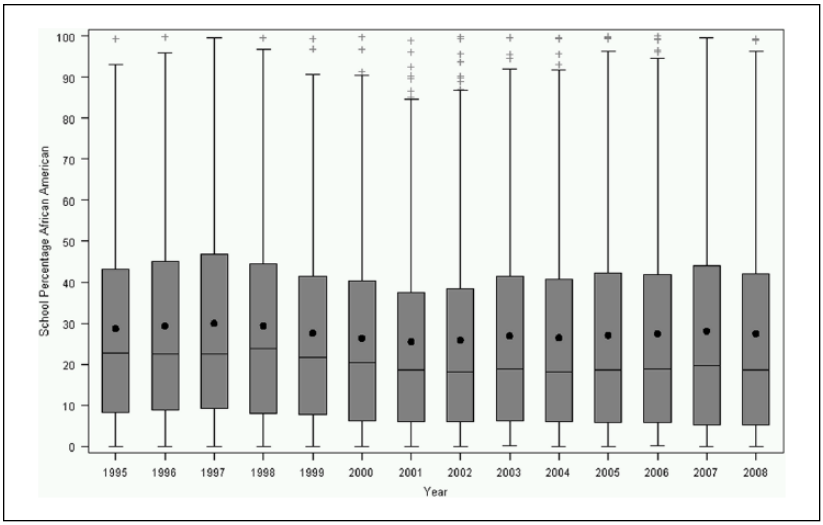

Figure 1. Trends in the distribution of the percentage of Black students attending high schools with IBDPs: 1995-2008.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

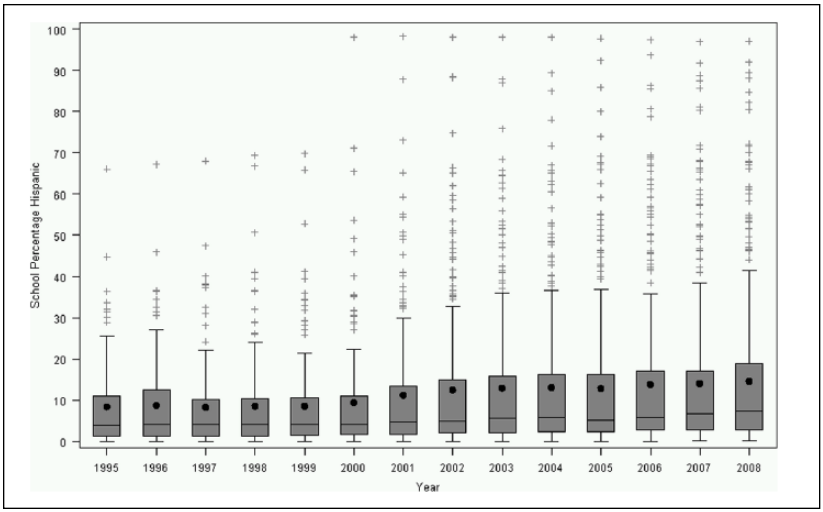

Figure 2. Trends in the distribution of percentage of Hispanic students attending high schools with IBDPs: 1995-2008.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

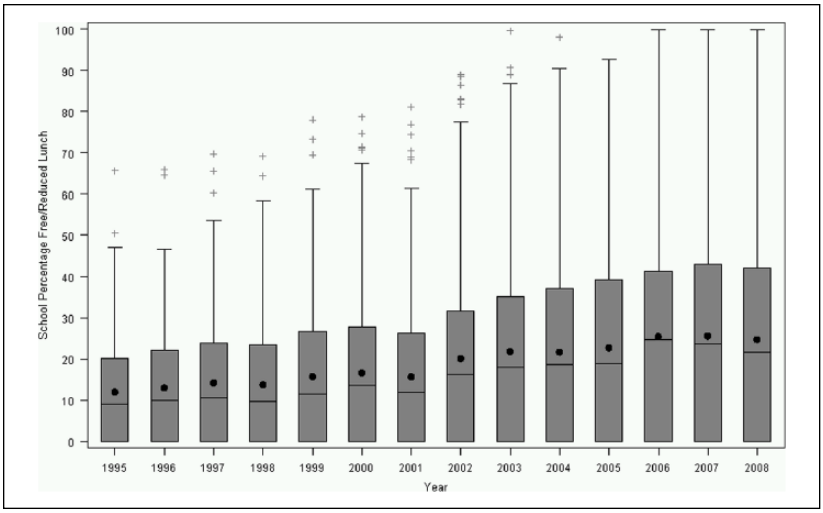

Figure 3. Trends in the distribution of the percentage of free/reduced lunch eligible students attending high schools with IBDPs 1995-2008.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

Hispanic students attending schools with an IBDP increased from 8% to 15%. Nonetheless, it is not clear the extent to which these changes reflect changes in the composition of schools offering the IBDP rather than changes in the enrollment composition (especially the representation of Hispanics) of high schools nationwide over this period.

The analyses also suggest an increase in the availability of IBDP at high schools attended by low-income students. Figure 3 shows a remarkable lengthening of the distribution of free/reduced lunch eligible students attending schools with an IBDP. From 1995 to 2008, the average percentage of students eligible for free or reduced price lunch attending schools with an IBDP increased from 12% to 25%. Between 1999 and 2003, there was also a steady, but small, annual increase in the percentage of IBDPs offered at Title I eligible schools (from 3% in 1999 to 16% in 2003), with additional increases of 3 to 4 percentage points in 2005 and 2007, and much larger increases in both 2008 (6 percentage point increase) and 2009 (10 percentage point increase), to reach a high of 40% of IB schools eligible for Title I funding in 2009 (Figure 4). These recent increases likely reflect both the adoption of the IBDP by schools that were Title I eligible, as well as the establishment of Title I eligibility at some schools that already offered IBDP.

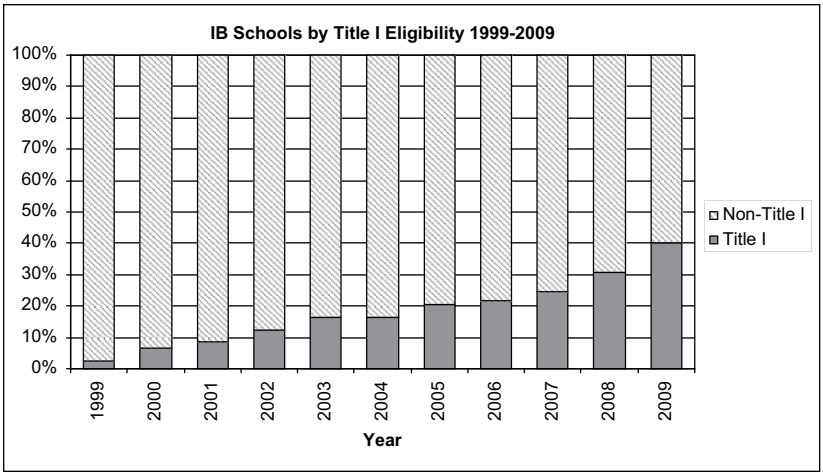

Figure 4. Trends in the distribution of high schools offering IBDPs by Title I eligibility: 1999-2009.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

To What Extent Do Black, Hispanic, and Low-Income Students Participate in IBDP?

The second research question uses data from the IB programme to assess trends in participation in IBDP in the United States among Black, Hispanic, and low-income students. Between 1995 and 2009, the total number of students participating in the IBDP at high schools in the United States increased by 477%, from 9,034 in 1995 to 52,154 in 2009 (personal communication, J. Sanders, August 10, 2011). Over this period the proportion of all non-white students (that is, Black, Hispanic, Asian, and other) participating in IBDP increased from 39% in 2006 to 43% in 2009. Figure 5 shows that nearly all of this increase is attributable to the increased representation of Hispanic students in IBDP, up from 8% in 2006 to 12% in 2009. Even with this growth, the representation in 2009 of Hispanic students among IBDP participants (12%) continued to be below the representation of Hispanics among public school enrollments (pre-K to 12th grade, 22% in 2009) however (National Center for Education Statistics, 2012). Figure 6 shows that the proportion of free or reduced price lunch eligible students participating in IBDP increased only slightly in recent years, from 13% in 2006 to 17% in 2009, despite the concurrent increase in the availability of IBDP at schools with high percentages of low-income students (Figures 3 and 4).

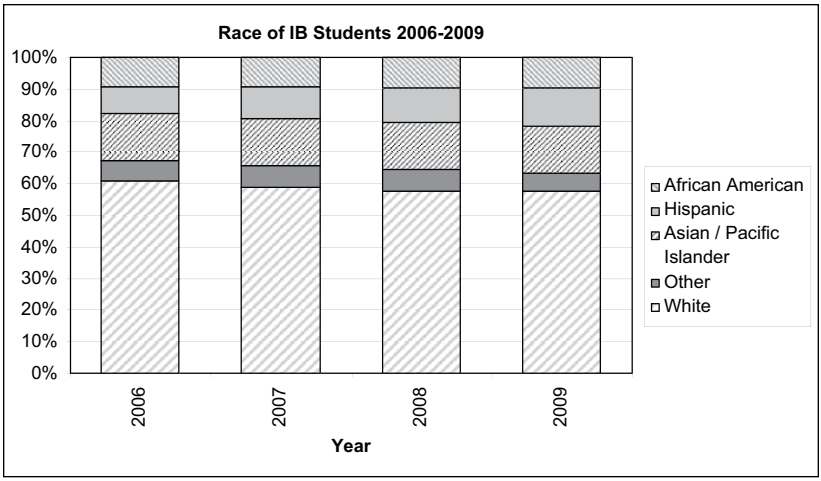

Figure 5. Trends in the distribution of students participating in IBDPs by race/ethnicity: 2006-2009.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

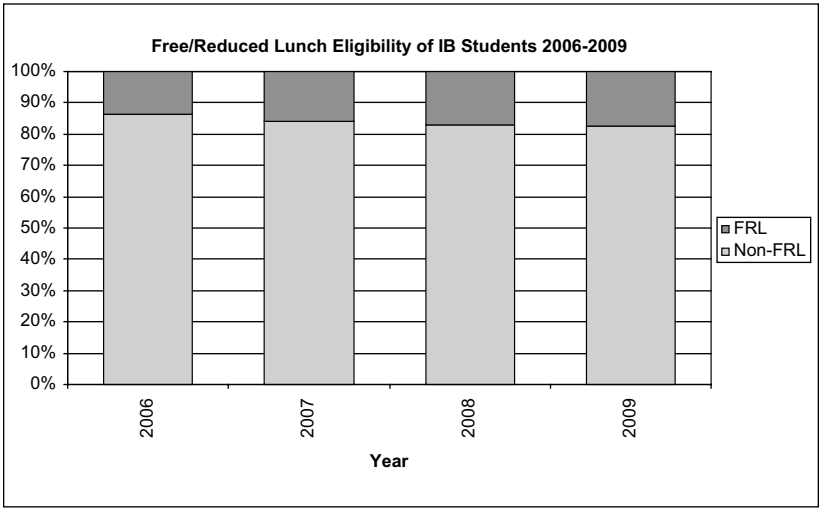

Figure 6. Trends in the distribution of students participating in IBDPs by free/reduced lunch eligibility: 2006-2009.
Source: Analyses of data from International Baccalaureate Americas and Common Core of Data.

Does the Opportunity to Participate in IBDP at Public High Schools in the State of Florida Vary Based on the Demographic Characteristics of Students Attending the School?

Drawing on survey responses from IBDP coordinators at 45 Florida public high schools, we first describe the demographic characteristics of public high schools in Florida that offer the IBDP and then consider the extent to which available programs' admissions and enrollment policies vary based on the family income and race/ethnicity of students who attend the schools.

Characteristics of Public High Schools in Florida Offering IBDP. In Florida public high schools, IBDP is available to a racially/ethnically and economically diverse set of students. About half (55%) of students, on average, attending Florida public high schools with an IBPD are racial/ethnic minorities (that is, Blacks, Hispanics, Asians, and American Indians). This percentage is comparable to the representation of non-White students attending all public high schools in Florida in 2009 to 2010 (52%) (Florida Department of Education, 2011a). About one fifth of all respondents (22%), and a considerably higher share of respondents at schools in which racial/ethnic minorities represent the majority of enrolled students (38%), indicated that their IBDP is used to improve the racial balance of the school. Mirroring the pattern nationwide (Figure 4), 40% of the responding IBDPs in Florida are in Title I schools. The share of students qualifying for free or reduced price lunch at responding Florida high schools with an IBDP ranges from 11% to 84%, and averages 50%.

Opportunity to Gain Access to IBDPs in Florida. The opportunity to participate in an available IB Diploma Programme depends on a number of program features, including the number of applications and the percentage of applications accepted. Responding programs vary greatly in these characteristics, as the number of applicants per year ranges from 25 to 600, and averages 188.4. Programs accept between 25% and 100% of applicants annually, with an average acceptance rate of 73%. Table 1 shows that the number of students applying to IBDPs at Florida public high schools is lower at schools with more low-income students: schools in which more than half of students qualify for free or reduced price lunch report fewer applicants than schools in which fewer than half of students qualify for this needs-based program (155 vs. 237). Acceptance rates do not vary based on the school-level measures of family income or race/ethnicity considered in these analyses.

Table 1. Variations in Admissions Characteristics of Florida IBDPs Based on the Demographic Characteristics of the Student Body.

		Title I		More than 50% low-income		More than 50% non-White	
Characteristic	Total	Yes	No	Yes	No	Yes	No
Number applicants/year							
Mean	188.37	158.06	216.52	154.78	236.94†	209.25	173.33
Std. Deviation	(144.93)	(146.01)	(147.24)	(129.38)	(160.41)	(155.22)	(141.94)
% applicants accepted							
Mean	0.73	0.73	0.70	0.70	0.73	0.64	0.77
Std. Deviation	(0.24)	(0.22)	(0.25)	(0.22)	(0.25)	(0.21)	(0.25)
Minimum GPA, admission							
Mean	2.93	2.94	2.92	2.94	2.90	2.91	2.94
Std. Deviation	(0.22)	(0.19)	(0.24)	(0.17)	(0.27)	(0.22)	(0.22)
Minimum GPA, continued enrollment							
Mean	2.70	2.56	2.78**	2.65	2.74	2.64	2.74
Std. Deviation	(0.26)	(0.21)	(0.26)	(0.29)	(0.23)	(0.26)	(0.26)

Note: †$p < .10$. *$p < .05$. **$p < .01$. Grade point average = GPA.

The opportunity to participate in an available IBDP also depends on the criteria used to admit students. Nearly all require students to have a minimum grade point average (GPA, 35 of 42 responding programs) and more than half (26 of 42) require a minimum standardized test score. As shown in Table 1, the minimum GPA required for entry does not vary based on the race/ethnicity or family income of the students attending the school. Only 26% of responding programs report enforcing the GPA and test score requirements "without exception," with nearly 50% reporting only "somewhat strictly" or "not strictly" enforcing these requirements. But, the extent to which programs report enforcing these requirements does not vary based on the family income or race/ethnicity of the student body (as measured in this study).

Our analyses also reveal little difference based on the demographic characteristics of the school in other items that are typically required for admission to an IBDP. Nearly all responding programs report requiring students to have a parent's signature (39 of 42). About half require prior advanced/honors coursework (24 of 41). About a third require a writing sample (16 of 40) or letters of recommendation (12 of 36); 5 of 38 require interviews.

Some respondents wrote in responses that shed further light on forces that may promote or restrict opportunity to participate in an available IBDP. Together these responses imply the discretion that individual IBDP coordinators have in determining which students participate. For instance, a small

number of coordinators (n = 3) commented on the holistic and inclusive nature of their admission process, with one respondent noting, for example, that: "No one factor would exclude a student. We are looking for reasons to accept, rather than reasons to exclude." In contrast, a few respondents mentioned the exclusive nature of their programs, with one coordinator stating that IBDP students are the "crème de la crème" of the school. Some coordinators suggested that students self-select to participate, indicating that those students who did not enroll in the program did not want to invest the necessary effort. Other respondents described selecting students using a lottery, probationary admission, and teacher/advocate input. Some IBDP coordinators reported making exceptions to the admissions requirements not only for students with low GPAs and/or test scores but also for many other groups, including students who lack some academic course requirements, students who have been homeschooled, students who have transferred from another IB school, English language learners, recent immigrants, and international students. For some share of IBDPs, the admissions process is controlled at a higher level; about a fifth of coordinators (n = 7) indicated that their districts manage selection and admission with minimal involvement from the IBDP or school staff.

We found little variation based on the demographic characteristics of the student body in terms of requirements for continued IBDP enrollment with the exception of the minimum GPA requirement. Nearly all (91%) responding programs require students to maintain a minimum GPA to remain enrolled in the program, with an average minimum of 2.70. Title I schools average a somewhat lower threshold, requiring a minimum 2.56 GPA; the minimum GPA required for continued enrollment at non-Title I schools is 2.78 (Table 1). More than half (58%) of responding programs require students to maintain a sound disciplinary and attendance record. Other requirements for remaining in the program are inconsistent across responding IB Diploma Programmes but do not vary based on the characteristics of the student body (as crudely measured in these analyses). In the open-ended responses, a few coordinators (n = 4) cited specific components of the IBDP (e.g., creativity, action, and service; internal assessments; etc.) that students must complete in order to maintain their IB status. Other respondents (n = 4) noted that students must adhere to the program or school's honor code. Three programs commented that they currently have no policy pertaining to students remaining in the program but that they "make it difficult to drop IB because we feel strongly that IB is good for everyone." Along the same lines, another respondent wrote, "If students seem to be struggling in the area of academics or discipline, attempts are made to remediate."

Table 2. Academic Characteristics of Florida IBDPs.

Characteristic	All programs	Title I Schools	More than 50% free/ reduced price lunch	More than 50% non-White
IB programme offers TOK for credit	98%	100%	100%	100%
IB assessments required	98%	94%	95%	95%
Pre-IB programme	98%	100%	96%	95%
Must enroll in full IB programme*	89%	83%	77%	86%
Higher level courses offered in all subject areas	27%	22%	32%	24%

Note: Higher level course require 240 teaching hours whereas standard-level courses require 150 hours.
*$p < .05$. International Baccalaureate = IB. Theory of knowledge = TOK

Do the Academic Offerings and Supports Provided by IBDP Vary Across Public High Schools in the State of Florida Based on the Demographic Characteristics of Students Attending the School?

Assessing whether IBDPs have the potential to improve the academic readiness for college among low-income, Black, and Hispanic students also requires attention to the characteristics of the program's academic offerings and supports. As expected given the highly structured nature of the program, respondents showed little in several key features. For instance, virtually all responding programs offer Theory of Knowledge for credit (98%) and require students to take IB assessments (98%). Nearly all (98%) of responding programs also have a pre-IB program for ninth and tenth graders (see Table 2).

Survey responses reveal some differences in terms of whether students are required to enroll in the full IBDP. The majority (89%) of responding programs affirm this requirement, while about 11% of responding programs permit students to take individual IB courses. The opportunity to take individual IB courses without enrolling in the full program is somewhat more common at schools with high shares of low-income students, as only 77% of schools in which at least 50% of students are eligible for free or reduced price lunch require students to enroll in the full program (Table 2).

Suggesting variations across programs in the academic preparation provided, only a minority of responding IBDPs offer higher level courses in all subject areas; higher level courses have 240 teaching hours whereas standard-level courses have 150 teaching hours. Table 2 shows that just 27% of responding programs have this academic breadth. Although the share of

Table 3. Services Related to College-Going Provided Specifically for IB Students.

Service	All programs	Title I schools	More than 50% free/ reduced price lunch	More than 50% non-White
Counselor for IB students only *	57%	39%	59%	57%
Hosting college representative	49%	56%	59%	57%
College visits	42%	44%	55%	48%
SAT preparation	29%	33%	36%	29%
College essay writing workshops	29%	33%	27%	38%
Financial aid workshops	29%	17%	32%	24%
Alumni panels	9%	11%	9%	10%

Note: $^*p < 0.05$

programs with higher level courses in all subject areas is low, the availability of this range of higher level courses does not vary based on the race/ethnicity or family income of the school's student body.

Responding programs also vary in the availability of other supports that may contribute to students' academic readiness for college-level expectations. Three of every five (57%) programs have a school counselor dedicated to IBDP students (Table 3), but the presence of a counselor specifically for IBDP students is less common at Title I schools (39%). The degree to which responding programs reported offering other academic supports specifically for IB students was consistent across school demographic characteristics. About half of responding programs hosted a college representative (49%) and offered college visits (42%). More than one fourth offered SAT preparation (29%), assistance with college essay writing (29%), and financial aid workshops (29%). Only 9% of respondents reported offering alumni panels to help students prepare for college (Table 3).

Discussion

This study is not without limitations, including the absence of data describing the curricular choices students make in the absence of the IBDP or the participation of students in alternatives to IBDP, including AP and dual enrollment courses. Findings are also limited by the imperfect and incomplete measures of the demographic characteristics of IBDP participants and the characteristics of a school's student body. We also lack school- and student-level data

describing the extent to which IBDP students of different groups receive diplomas and certificates or are actually academically ready for college.

Despite the limitations, the descriptive analyses conducted in this study suggest that IBDP is failing to provide the opportunity to improve the academic readiness of populations in the United States that have traditionally averaged lower levels of college readiness. The opportunity for IBDP—a highly structured, academically rigorous curricular program—to improve academic preparation for college continues to vary based on students' family income and race/ethnicity.

The findings from this study suggest that, although the IBDP has increased its representation in schools across the nation that serve greater proportions of Hispanic and low-income students, the characteristics of students participating in IBDPs are much less diverse. In the last 4 years, the proportions of Hispanic and low-income students who enroll in an IBDP increased only marginally. About 25% of students at schools with an IBDP were eligible for free/reduced lunch in 2008, but only 17% of the students participating in IBDPs in that year were eligible for the free or reduced price lunch program. The different patterns of change in student characteristics at the school and student levels may be attributable to changes in the distribution of students across schools (with all schools becoming more racially/ethnically diverse, for example).

Whatever the reason, it is clear that, although the IBDP is being offered in more diverse schools, it is experiencing less success enrolling Black, Hispanic, and low-income students into the program. These findings raise questions about the extent to which the expansion of IBDP has the potential to improve academic preparation for college among groups of students that average lower levels of preparation. The findings from this study suggest that policies and programs meant to expand access and improve equity in educational opportunity do not realize their goals simply by opening their doors. One challenge may be that not all students are equally qualified to meet the IBDP admission criteria. The result, however, is that students from more advantaged backgrounds often continue to dominate these spaces and opportunities. This pattern is a classic example of the way that social inequality can be reproduced through "opportunity hoarding" by those with privilege (Bourdieu, 1977; Tilly, 1998).

Data from the survey of IBDP coordinators in Florida shed light on the processes that determine which students participate in the program and the nature of the academic preparation for college that is actually provided. These data are not without limitation, as they reflect perceptions and self-reports of respondents. The data also describe only IBDP in Florida public high schools and do not describe trends in the characteristics of participants at these

schools. Variations within programs in this one state likely understate the variations that exist among programs in other states, particularly given variations across states in policies pertaining to IBDP and other accelerated learning options and the unique state policy context in Florida described in the research method section (Western Interstate Higher Education Commission, 2006).

Even with the crude measures of the characteristics of the student body used in these analyses, data from the survey of program administrators in Florida point to some differences in the opportunity for available IBDPs to improve students' academic readiness for college based on the demographic characteristics of the school. Most notably, although most programs require students to take the full IB Diploma curriculum, this requirement is somewhat less common at schools where at least half of the students are low-income.

Other findings raise questions about the extent to which students may be formally and informally encouraged or discouraged from participating in an available IBDP, regardless of the school's demographic characteristics. On average, about 73% of students who apply to participate in Florida IBDPs are accepted. Although most IBDPs in Florida consider prior coursework and GPAs in admissions decisions, programs vary in the extent to which they strictly enforce their admissions requirements and consider other criteria in these decisions. These variations along with the range of criteria considered in the admissions process suggest the possibility that the types of curricular tracking found in prior research (e.g., Burris et al., 2008; Hertberg-Davis & Callahan, 2008; Siskin et al., 2008) may be occurring at the IBDPs in this study. Additional research is required to better understand how, when, and why exceptions to admissions policies are made, and how selective enforcement of these policies influences the participation of students from different demographic groups.

The analyses also show that the availability of some program features that likely contribute to participants' college readiness vary across IBDPs based on the characteristics of students attending the school. About half (57%) of all programs have a counselor dedicated to IBDP students. But consistent with other research showing that college-related counseling is less available at schools with predominantly low-income populations (McDonough, 1997, 2005; Perna et al., 2008), a smaller share of Title I schools have a counselor dedicated to IB students (39%). The absence of a dedicated counselor at many IBDP schools, but especially schools serving high shares of low-income students, raises questions about the extent to which IBDP students are able to receive the information and support required to maximize the benefits of their IBDP participation to their college readiness and other college-related processes.

Other IBDP characteristics did not vary based on the family income or race/ethnicity of students attending the school. Yet the relatively small shares of programs with some of these characteristics raises additional questions about the uniformity of preparation provided by IBDPs. Particularly noteworthy is the relatively small (27%) share of responding programs that report offering higher level courses in all areas. Our analyses do not reveal the extent to which the absence of higher level courses in all subject areas at most schools reflects a lower level of student academic ability at a school, the absence of teachers qualified to teach higher level courses in all areas, or a school philosophy that places relatively greater value on more widespread participation in standard-level courses rather than smaller participation in a greater number of higher level courses. Regardless, the low percentage of schools offering higher level courses in all subject areas raises questions about the consistency of the academic preparation that is provided by available IBDPs, a critical issue given the importance of academic preparation to students' college enrollment and success (Perna, 2005). These variations across Florida IBDPs also raise questions for administrators and researchers about the fidelity of program implementation. The occurrence of these variations despite efforts by IB Americas to "systematize" the operation of IBDPs (Byrd, 2007) suggests the need for continued vigilance to implementation challenges.

The descriptive analyses of the multiple sources of data examined in this study also have important implications for researchers seeking to identify the effects of IBDP and other similar types of programs on students' college-related outcomes. Variations in the characteristics of schools offering IBDP suggest selection effects at the school level, while variations in the characteristics of students participating in IBDP suggest self-selection at the student level. Variations in the academic offerings and supports across Florida IBDPs indicate that "IBDP" at one school is not necessarily the same "IBDP" at another school, raising questions about what analyses of the effects of "IBDP" actually describe. Future efforts to determine the effects of participating in IBDP, other college-based transition programs, and any other voluntary academic program on high school students' college-related outcomes must take these differences into account in order to develop an accurate assessment of the program, including the benefits of the program for improving the academic preparation for Black, Hispanic, and low-income students.

Recent increases in funding have specifically focused on offering IBDP to more demographically diverse students. In 2006, the U.S. Department of Education awarded IB North America (IBNA) a grant to implement the IBDP curriculum in Title I high schools (Siskin, Weinstein, & Sperling, 2010). In fall 2009, the Gates Foundation built on these efforts to expand access to the

IBDP to students from low-income families and racial/ethnic minorities with *The International Baccalaureate (IB) Access Project*. This US$2.4 million grant is designed to prepare underserved students for future participation and success in the IBDP by increasing participation in the Middle Years Programme (MYP) and developing "tools and resources for student assessment in Grades 9 and 10 that align with expectations for the Diploma Program in Grades 11 and 12" (IB Americas, 2009).

Yet the benefits of these efforts will only occur if low-income, Black, and Hispanic students (as well as other underrepresented groups that are more difficult to examine including Native Americans/Alaskan Natives) participate in available programs and if the available program has the full range of academic offerings and programmatic supports that ensure college readiness. Variations in the availability of IBDPs across schools, participation in available IBDPs within a school, and characteristics of the IBDP that is offered all influence the extent to which an academically demanding curricular program like IBDP may improve the academic readiness for college among students that have historically averaged lower levels of academic readiness.

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References

Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education.

Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

Bailey, T., & Karp, M. M. (2003). *Promoting college access and success: A review of credit-based transition programs*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

Bland, J., & Woodworth, K. (2008). *Case studies of participation and performance in the IB Diploma programme*. Menlo Park, CA: SRI International.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge, UK: Cambridge University Press.

Bunnell, T. (2008). The global growth of the international baccalaureate diploma programme over the first 40 years: A critical assessment. *Comparative Education*, *44*, 409-424.

Burris, C., Wiley, E., Welner, K., & Murphy, J. (2008). Accountability, rigor, and detracking: Achievement effects of embracing a challenging curriculum as a universal good for all students. *Teachers College Record*, *110*, 571-608.

Byrd, S. (2007). *Advanced placement and international baccalaureate: Do they deserve gold star status?* Washington, DC: Thomas B. Fordham Institute.

Chen, X., Wu, J., & Tasoff, S. (2010). *Academic preparation for college in the high school senior class of 2003-04*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute for Education Sciences.

Corcoran, T., & Gerry, G. (2011). *Expanding access, participation, and success in International Baccalaureate programmes (IB access project). Evaluation report: Year two*. New York, NY: Teachers College, Columbia University, The Consortium for Policy Research in Education.

Doherty, C. (2012). Optimising meritocratic advantage with the International Baccalaureate Diploma in Australian schools. *Critical Studies in Education*, *53*, 183-196.

Doherty, C., Mu, L., & Shield, P. (2009). Planning mobile futures: The border artistry of International Baccalaureate Diploma choosers. *British Journal of Sociology of Education*, *30*, 757-771.

Duevel, L. M. (1999). *The International Baccalaureate experience: University perseverance, attainment, and perspectives on the process* (Doctoral dissertation, Purdue University).

Florida Department of Education. (2011a). *Membership by school by race/grade/gender as of 12/05/10*. Retrieved from http://www.fldoe.org/eias/eiaspubs/default.asp.

Florida Department of Education. (2011b). *Comparison of Florida's articulated acceleration programs*. Retrieved from http://www.fldoe.org/articulation/pdf/cfaap.pdf

Foust, R. C., Hertberg-Davis, H., & Callahan, C. M. (2009). *Students' perceptions of the nonacademic advantages and disadvantages of participation in Advanced Placement courses and International Baccalaureate Programs*. Paper presented at the Annual Conference of the National Association for Gifted Children, Minneapolis, MN. Retrieved from http://nrcgtuva.org/presentations/DimensionsAP_IBRCFCMC2007.pdf

Gollub, J. P., Bertenthal, M. W., Labov, J. B., & Curtis, P. C. (Eds.). (2002). *Learning and understanding:Improving advanced study of mathematics and science in U.S. high schools*. Washington, DC: National Academy Press.

Hertberg-Davis, H., & Callahan, C. M. (2008). A narrow escape: Gifted students' perceptions of advanced placement and international baccalaureate programs. *Gifted Child Quarterly*, *52*(3), 199-216.

International Baccalaureate Americas. (n.d.). *United States: Dynamic presence: Growth and characteristics of IB world schools*. Retrieved from http://www.ibo.org/iba/countryprofiles/

International Baccalaureate Americas. (2009). *Gates Foundation awards IB grant: International Baccalaureate to prepare more low-income and minority students for the diploma programme*. Retrieved from: http://www.ibo.org/media/gates-foundationawardsibgrant.cfm

International Baccalaureate Americas. (2011a). *Country information for the United States*. Retrieved from http://www.ibo.org/country/US/index.cfm

International Baccalaureate Americas. (2011b). *Recognition policy summary – Florida universities*. Retrieved from https://www.ibo.org/diploma/recognition/recognitionpolicy/documents/2011-FloridaGrid_001.pdf

International Baccalaureate Americas. (2012). *History of the International Baccalaureate*. Retrieved from http://ibo.org/history/

International Baccalaureate Americas. (2013a). *Fast facts about the IB*. Retrieved from http://www.ibo.org/facts/fastfacts/index.cfm

International Baccalauareate Americas. (2013b). *What is the diploma programme?* Retrieved February 11, 2013 from http://www.ibo.org/diploma/

International Baccalaureate Global Policy and Research. (2010). *Academic performance of IB students entering the University of California system from 2000-2002*. New York, NY: International Baccalaureate Global Policy and Research.

International Baccalaureate Organization. (2006). *From growth to access: Developing an IBO access strategy*. Retrieved from http://www.ibo.org/mission/strategy/documents/FromGrowthtoAccess.pdf

Lee, J. M., & Rawls, A. (2010). *The college completion agenda, 2010, Progress report*. Washington, DC: College Board Advocacy & Policy Center.

Kirst, M. W., & Venezia, A. (2004). *From high school to college: Improving opportunities for success in postsecondary education*. San Francisco, CA: Jossey-Bass.

Kolb, W. (1997). *Performance of students from IB schools at the University of Florida*. Gainesville, FL: University of Florida.

McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany: State University of New York Press.

McDonough, P. M. (2005). Counseling and college counseling in America's high schools. In D. A. Hawkins & J. Lautz (Eds.), *State of college admission* (pp. 107-121). Washington, DC: National Association for College Admission Counseling.

Moydell, J. L. (1991). *Lamar High School: Instructional tracks and student achievement (1990/1991)*. Houston, TX: Houston Independent School District. (ERIC No. ED337503).

National Center for Education Statistics. (2012). *Digest of education statistics 2011*. Washington, DC: Author.

Perna, L. W. (2005). The key to college access: Rigorous academic preparation. In W. G. Tierney, Z. B. Corwin & J. E. Colyar (Eds.), *Preparing for college: Nine elements of effective outreach* (pp. 113-134). Albany: State University of New York Press.

Perna, L. W., Rowan-Kenyon, H., Thomas, S. L., Bell, A., Anderson, R., & Li, C. (2008). The role of college counseling in shaping college opportunity: Variations across high schools. *Review of Higher Education*, *31*, 131-160.

Siskin, L. S., Weinstein, M., & Sperling, R. (2010). *To be IB: Creating support structures and services for Title I high schools implementing the International Baccalaureate Programme. Final report*. New York, NY: New York University, Institute for Education and Social Policy.

Tarc, P. (2009). *Global dreams, enduring tensions: International Baccalaureate in a changing world*. New York, NY: Peter Lang.

Tilly, C. (1998). *Durable inequality*. Berkeley: University of California Press.

U.S. Department of Education. (2012). *Title I—Improving the academic achievement of the disadvantaged*. Retrieved from http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html

Venezia, A., Kirst, M. W., & antonio, a. l. (2003). *Betraying the college dream: How disconnected K-12 and postsecondary education systems undermine student aspirations*. Stanford, CA: The Bridge Project.

Waits, T., Setzer, J. C., & Lewis, L. (2005). *Dual credit and exam-based courses in U.S. public high schools: 2002-03*. Washington, DC: U. S. Department of Education, Institute of Education Statistics.

Walker, G. (2011). Introduction: Past, present, and future. In G. Walker (Ed.), *The changing face of international education: Challenges for the IB* (pp. 1-17). Geneva, Switzerland: International Baccalaureate.

Western Interstate Higher Education Commission (2006). *Accelerated learning options: Moving the needle on access and success. A study of state and institutional policies and practices*. Boulder, CO: Author.

Author Biographies

Laura W. Perna, is a professor in the Graduate School of Education at the University of Pennsylvania.

Henry May, is an associate professor of Education and Human Development at the University of Delaware.

April Yee, is a doctoral candidate in the Graduate School of Education at the University of Pennsylvania.

Tafaya Ransom, is a doctoral candidate in the Graduate School of Education at the University of Pennsylvania.

Awilda Rodriguez, is a doctoral candidate in the Graduate School of Education at the University of Pennsylvania.

Rachél Fester, is an executive director of Assessment and Planning, College of Mount Saint Vincent.